



IN THE SPECIFICATION

Please replace the paragraph beginning at page 1, line 7, with the following rewritten

This invention relates to a picture encoding apparatus and method and an error correction apparatus and method for applying error correction and encoding to a codestream in the course of encoding in accordance with e.g. the JPEG-2000 system or to ~~an a~~ a codestream already encoded in accordance with the JPEG-2000 system. This invention also relates to a picture encoding apparatus and method and an error correction apparatus and method for carrying out error correction using an error correction code embedded in the encoded codestream.

Please replace the paragraph beginning at page 4, line 11, with the following rewritten paragraph:

In view of the above depicted state of the prior art, it is an object of the present invention to provide a picture encoding apparatus and method and an error correction encoding apparatus and method for readily efficiently applying error correction and encoding to a codestream in the course of encoding in accordance with e.g. the JPEG-2000 system or to ~~an a~~ a codestream obtained on encoding in accordance with the JPEG-2000 system, and a picture decoding apparatus and a picture decoding method and an error correction and decoding apparatus and method, for correcting the errors using the error correction codes embedded in the encoded codestream.

Please replace the paragraph beginning at page 16, line 21, with the following rewritten paragraph:

The wavelet transform unit 11 is supplied with an amount of picture signals ~~D4~~ D10, as a necessary minimum amount to permit filtering, and applies filtering by way of wavelet transform to generate wavelet transform coefficients D11.

Please replace the paragraph beginning at page 19, line 4, with the following rewritten paragraph:

Each code block is encoded independently, from the most significant ~~but~~ bit (MSB) towards the least significant bit (LSB), from one bitplane to another. The quantization coefficients are represented by n-bit signed binary number, with respective bits from the LSB to the MSB being indicated by bit 0 to bit (n-2). The remaining one bit is a sign bit. The code blocks are sequentially encoded, beginning from the MSB side bitplane, by the following three encoding passes (a) to (c):

- (a) a significance propagation pass;
- (b) a magnitude refinement pass; and
- (c) a cleanup pass.

Please replace the paragraph beginning at page 31, line 17, with the following rewritten paragraph:

The error correction encoding unit 72 applies error correction encoding to the header data D71, using e.g. the Reed-Solomon (RS) code, to send an inspection symbol D75 and an

information symbol D76 following the error correction and encoding to the codestream formatting unit 75. In similar manner, the error correction encoding units 73, 74 apply error correction encoding to data D72 of the ~~uppermost~~ lowermost layer and to data D73 of the packets of the layer subjacent to the uppermost layer, and send inspection symbols D77, D79 and information symbols D78, D80, following the error correction, to the codestream formatting unit 75. The codestream formatting unit 75 embeds the inspection symbols D75, D77 and D79 in a predetermined lower layer in an encoded codestream, for example, in the lowermost layer.

Please replace the paragraph beginning at page 35, line 13, with the following rewritten paragraph:

The codestream formatting unit 98 integrates the header data D99, data D100 of the packets of the uppermost layer, and data D101 of the packets of the layer subjacent to the uppermost layer, following the error correction and decoding, and data D95 of the packets of the layer not being error corrected and decoded, to generate an ultimate encoded codestream D102, which is sent to the picture decoding apparatus 110.